Editorials by the Laity

Nature's Laws Constructed by Man.

By Charles R. Gibson.

ONE sometimes finds people who consider theory to be a useless sort of thing, a sort of wild guess, without which we should be none the poorer. It must be clear that a theory is more than a mere speculation. If I suggest that the moon is made of green cheese my speculation is not entitled to be called a theory. I cannot bring forward any observed facts to support my suggestion.

When the ancients observed the sun rising in the east and setting in the west they naturally suggested that the sun was making a continual journey round and round the earth. This theory accounted for the rising and setting of the sun; but when the motions of the planets were carefully observed at a later date it was found that the old Ptolemaic theory could not satisfactorily explain these planetary motions. But until the middle of the sixteenth century man believed his habitation to be securely fixed in space, while the sun, moon, and stars all moved about him.

We have seen that the original theory was found to be wrong, although it appeared at first to be founded on observed facts.

No doubt most of us have been deceived completely at some time or other as to whether we ourselves or some other observed body was in motion. The first sensation of going up in a balloon on a quiet day is that the earth is falling away from the balloon. A more common experience is that of a train moving quietly out of a railway station in which another train is at rest. A passenger sitting in the moving train and looking at the stationary train is often deceived. He sees the other train, or rather he believes he sees the other train, moving away and a little later he is surprised to find that it is he himself who is moving. Of course the illusion can only occur when the train carrying the observer moves gradually and smoothly. A sudden jolt would immediately dispel the illusion.

No person really doubts today that our earth is moving through space, that it is spinning round like a top, and at the same time making a continuous journey around the sun. The only reason why man was deceived so long was that our planet glides along without any resistance being offered to its motion. The railway passenger may discover the motion of his train by a sudden jolt, but it is fortunate that man has not experienced any similar jolting of the planet.

It was a bold theory to bring the sun to a standstill and set the earth in motion. We know how poor Galileo had to suffer imprisonment at the hands of the church for supporting this theory, which had been advanced seventy years previously by Copernicus. However, astronomers were able to bring forward so many observed facts to support this theory that its truth was forced upon every thinking person. It took some time to convince people, for the earlier theory seemed the more natural, but there could be no doubt that it must be the one way or the other.

There is a good story told of a well known professor examining three raw students. He asked the first, "Does the earth go round the sun or the sun go round the earth?"

"The earth goes round the sun, sir."

"You," said the professor, quickly turning to the second student, "O, the sun goes round the earth."

"You," demanded the professor of the third student.

"O, it's sometimes the one way and sometimes the other."

Our position then is this: We gather a number of carefully observed facts and we then try to explain them. We then look out for new facts and see if our theory can explain these also. If it cannot we must be willing to alter our theory.

We have another and more important method of testing our theories. We may be able to reason from a theory that certain things should happen or should exist, if our theory be true. We look out for these facts and find if they really do exist. We must follow up a theory to its logical conclusion and test our deductions by careful experiment. A theory, then, is a good thing whether it proves to be correct or not. It assists in furthering and systematizing the collection of facts. Lord Bacon summed up the matter three centuries ago in the following sentence, which is to be found in his "Advancement of Learning": "All true and faithful natural philosophy hath a double scale or ladder, an ascendant and descendant; ascending from experiments to the invention of causes and descending from causes to the invention of new experiments."

When we are quite satisfied that a theory is correct we then raise the theory to a higher platform and call it a law of nature. It is well to remember that with all other knowledge these laws of nature are of man's own making. It is amusing how some people think that certain things happen because of these "laws of nature." As if the universe were controlled by these laws which man has constructed! The laws of nature are only theories which seem to be correct. They are not facts, but merely our views or ideas of facts.

How to Solve the Indian Problem.

By Brig. Gen. R. H. Pratt.

OUR declaration of independence, our constitution, our laws, and the decisions of our courts all seem to say the Indian is a citizen equally with us. If the Indian is a citizen he is one of us, and for his own sake and ours as well he is entitled to the fullest development of his powers that he may fairly share all the privileges we enjoy and help bear our government burdens. As the original inhabitant who once occupied undisturbed all of the more than two billion acres now our wonderfully prosperous home and our "greatest government on earth," it seems to me he is more entitled to all the school benefits and industrial privileges of the country than foreign immigrants.

Years ago I wrote to Mr. Edmunds, when he was chairman of the judiciary committee of the United States senate, asking him what was necessary to make the Indian a citizen of the country, and he replied: "Let him quit being an Indian, pay taxes, and be ready to fight for the government. No other ceremony is necessary."

In all of our many treaties with the Indians we acknowledged his manhood and equality, but sought to enslave his freedom. So long as he could keep away from and be independent of us we said to him by treaty, "You are a man, a nation," but as soon as we got him subjugated, whether by treaty or force, we reversed our tactics and denied and deprived him of all equality of privilege and segregated him far away from all chances to qualify himself for his inevitable new life.

In some treaties with the Indians we guaranteed that certain lands should be theirs for their exclusive homes "as long as grass grows and water runs," and soon after the Indians were shoved aside and these same lands came into the full possession of the white men. In treaties with some tribes we promised education for all their children, and these treaties if carried out in good faith would have cost us far more than all we have ever expended for education for all the tribes.

Gen. Sherman said that the United States has made over 900 treaties with the Indians and never kept one. Gen. Sherman did not give in his arraignment a fact in regard to these treaties which makes the violation of them still more discreditable. The Indian never sought to enter into any treaty agreements with the United States. It is exceedingly doubtful whether the Indians ever wrote one paragraph in any one treaty. Every expression and substance of every treaty was formulated by our government. I will go farther and affirm that few treaties were entered into amicably and that practically all of them were forced upon the Indians.

Our course of treatment clearly says the Indians have no rights in this country which we feel called upon to respect. All experience in dealing with the Indians and all study of our systems of control prove this.

As an army officer I have been with the Indians in peace and in war. I have talked and planned with their ablest men, and sought to know what they thought and felt. I have been present officially in many councils, have employed and served with them as soldiers against their own people, had supervision of them in their homes, and have endeavored to promote their civilization and development.

For a number of years I had charge of some of their strongest chiefs, held as prisoners of war, part of the time shackled and handcuffed. I myself revolted against our system, but did not desert the people. I removed the shackles and adopted the kindliest system of treatment possible in prison life, and endeavored in every way to heal the wounds and make them worthy, self-respecting men by giving to them education and industrial usefulness.

I filled them with the hope that instead of being members of a little tribe of Indians, and for that reason always to be hated and oppressed by us, they might become individually intelligent and useful citizens, having equal rights with us as citizens and the liberty to go and come and live and prosper among us the same as the black or white men. That there were good and encouraging results the official records clearly prove.

It has been loudly proclaimed that the Indian is exceptionally treacherous. This is not true. I have had command of a company of Indians from fifteen different so-called savage tribes, directing them in battle, fighting portions of their own tribes who were hostile, and a number of times have been with them in great danger in engagements with those hostile Indians, with no other white man along but an interpreter, miles away from our other troops, and in every respect found that they were as true and brave as any soldiers in my experience. Their record in "fighting for the country" as a duty of citizenship is complete.

The Indians have as deep love for their children as we have for ours, and, uninfluenced by designing white men, will cheerfully make as many sacrifices to see their children rise to intelligence and worth as the white man will. They love liberty, and when deprived of it feel it more keenly because they are children of nature and freedom.

The Indian is a citizen having great wealth in unused lands, and yet the fact of his ignorance and lack of training lies at our door and not at his, for he has been subject to our absolute control for many years. Our system of control is now and always has been calculated, if not intended, to keep him both ignorant and untrained. His ignorance and our oppressive treatment have brought to him disease and death in vastly undue proportion. His only relief and future safety depend on his becoming an intelligent, productive citizen, and as such taking full possession of himself and all that is his.

Properly advised, he is not averse to such education and training, nor is he in any way incapable of acquiring and using the same. His Indian qualities do not and cannot help him in any way to become a successful, self-respecting man and citizen in this country, nor will he at all care for his old qualities if he can have ours.

I say, then, give the Indian our language, our education, our industry, and our laws. He needs no others. Being enabled by these, he will flee from his worthless past, hold his own among us, and have greatest pride in the usefulness and distinction these will bring to him. This will end our long drawn out Indian problem. There is no other ending except annihilation.

Heart Wonders Shown by Physiologist.

By Andrew Wilson.

ALWAYS invested with a kind of mystical atmosphere by reason of ancient ideas and notions respecting its connection with the mind, the heart stands out prominently in all that kind of lore which concerns itself with our physical constitution. Nor does the physiologist, in his demonstration of the manner in which the heart discharges its duties lessen the popular interest in the central organ of the circulation.

Contrariwise, he may be said to augment largely that interest by revealing in us mechanisms which startle us by their complexity. The control of the heart's work is itself a feature well calculated to figure forth as a typical lesson in vital mechanism.

To begin with, the heart's affairs are regulated in a fashion which may be described as automatic. We can certainly influence the heart through our emotions. Fear and joy exercise their respective effects on the heart, and increase or lessen, as may be, the rate of its pulsations. But the main line of the heart's work proceeds outside of all willful or conscious control. As is the case with other bodily functions, that of digestion, for example, we may declare that the characteristic of the healthy organization is that we pay no heed to them at all. The bodily work proceeds hour by hour not controlled by us but for us.

In the case of the heart this admirable contrivance for seeming perfect action and for leaving the brain free to deal with the pressing questions of the day and hour is perfectly illustrated. The heart possesses, first of all, a little nervous system of its own, consisting of cells imbedded in its substance.

These nerve centers stimulate the fibers of the heart to their work. The heart is a muscle, and, like all other muscles, demands control and regulation, and especially needs a stimulus to compel the contraction of its fibers. So its nervous local parliament keeps to its duty and insures the regular and rhythmical contractions through which the blood is dispatched from each side of the heart on its appropriate mission. But investigation reveals to us that certain of the local centers have the function of restraining or slowing the heart's action.

The organ, like a horse, has thus not only the whip and spur to quicken but also the bit to check and restrain. Now, these two kinds of center are under the control of two special nerves, which issue forth from the nervous systems, whereof we possess two—the brain system and another known as the sympathetic, this last connected with the other system, regulating the automatic actions of the frame. The nerve which the sympathetic system sends to the heart tends to quicken its action and, nominally, to keep it pulsating in time and tune. The brain nerve, or vagus, as it is called, on the other hand, exercises a slowing down action on the heart. It is to the heart what the bit is to the horse.

Thus the heart is perfectly controlled in its speed, and so far appears as a bodily engine whose work is regulated to correspond with the variations inseparable from life's demands. But this is not the whole story of the heart's work. Just as an engine may be supposed to have a governing apparatus which will prevent it racing and relieve stress and strain, so the heart exhibits a most wonderful self-acting mechanism whereby the effects of excessive action are averted or minimized.

There are occasions, for example, when stress of work besets the right side of the heart particularly—the less powerful side engaged in sending blood to the lungs for purification. Now, under excessive work this right heart calls for relief and obtains it by a curious mechanism. A special nerve is placed at the service of the heart. It is called the "depressor." It is the duty of this bodily telegraph wire to carry messages not to the heart but from it, and the center which receives such messages is in the lower part of the brain, which may be described as a kind of suboffice, dealing with the blood vessels of the body. When the heart is, therefore, overpressed by its work, a message speeds along the depressor nerve to the suboffice in question.

This office, in its turn, issues forth an order which has the effect of relaxing the tension of the blood vessels. They expand or dilate, and as it is easier for the heart to send blood through wide tubes than through narrow, we note how heart stress is relieved in this simple but efficient fashion.

A great physician once remarked that despite its great complexity there was no organ of the body readier to adapt itself to circumstances or more capable of repaying ordinary care than the heart. This is true, and an appreciation of that fact should cause us all the more carefully to heed the wise man's advice and to keep our hearts with all diligence. When we have regard to the tremendous work the heart accomplished, we might well with Wesley say,

"Strange that a harp of a thousand strings should keep in tune so long."

Estimated in scientific fashion, a man's heart in twenty-four hours performs an amount of work which, if represented by the energy demanded for a big lift, would raise a 120 ton weight one foot high. Such a calculation can be accurately determined by measuring the force expended in one beat or cycle of movement of the heart and multiplying the short work into that of the day. Thus in no small degree does the heart's labor contribute to swell the big total of the energy the human engine expends each day it lives.

College Recruit in Business World.

By John A. Howland.

THAT one complaint of the business man against the young college recruit is that the young man comes to his establishment with so little practical knowledge of the business man's business. To use him at all the business organization must assign him to work that virtually is puerile. The one encouragement held out to the young man is that with his basework of trained mentality he can aspire to rapid and permanent preferment if only he will settle down and dig.

But, college man that he is, it is essential that he buckle down and dig. He is forewarned that, graduate of the school as he is, he is in the primary class at business. He is in a position as apprentice to begin to learn. But he has a new corps of professors in a new school that may not have a textbook anywhere in the establishment.

It is this situation on which I would lay strong emphasis, feeling that thousands of young men are not awake to the conditions which they find confronting them in this apprenticeship period.

It is undisputed that even in this age of the technological schools this young graduate of the textbook is received only as an apprentice employé. There may be exceptions in the case of exceptional young men, but the rule holds for the majority. The employer says to him in short, "All right, I'll give you a chance to learn the business. How little salary are you willing to work for in the apprenticeship period?"

This means nothing more clearly than that the employer is offering the young man a chance to work his way through the school of business. He has no free scholarships to offer. He conducts no dormitory in which his apprentice pupils may lodge, rent free. In order to work the young man must eat. Therefore the matter of salary is considered as a short cut to the apprenticeship end.

This is presupposing that the employer is conducting his apprenticeship "school" wisely. For the wise employer of men in apprenticeship stage must be counting upon the time when that young apprentice growing up in the business shall develop into broader capabilities and develop knowledge for stepping in under wider responsibilities and duties. Accordingly, as this employer is wise, he does not take kindly to the idea of educating young men for service in other competing organizations.

That average young man in business may cost his employer something. At the least he will cost the time and effort of supervision on the part of his superiors. Under the most careful direction the young man's mistakes may cost actual money to the establishment. In many lines of work, the apprenticeship term means loss of material to the employer.

These items the wise employer has learned are to be considered, according to the laws of chance, as affecting the salary which he can afford to pay. Always he is in the position of the schoolmaster who must have something to show for the tuition of his pupils. He wants a willing pupil, always. He will feel the necessity for keeping his apprentice encouraged as much as possible. If he shall have scaled his salary limit he will try in his wisdom to make amends in appreciation of his young man's efforts. Appreciation will "butter no parsnips," literally, but figuratively it will go a long way if it be honest appreciation of efforts and results that honestly are worth while.

In the light of these hard facts, therefore, the young man new to business ways and the conditions that affect them cannot afford to look upon his position as anything other than a student in the world school. That day, passing, in which he has not learned, is a day lost! That day, passing, in which he may have learned something that is wrong, ineffective, and misleading when he shall have graduated to the position of executive, taking a strong initiative in some life and death matter for him, may mean a ruined future!

What kind of business school are you attending, young man? Are you wasting hard efforts at learning of a poor master? Or, are you killing time and "cramming" in the best school open to you? For you are in school—don't forget that insistent fact and fail to take into consideration that having come through the preliminary training of college you are likely at an age where you can't afford longer to shirk in schoolboy idleness!

In college you may have been an indifferent student, held there by a parent's liberal purse and exaggerated ambition for you. In your present school, however the liberality of the purse, your employer will look to you to maintain the ambitious end of the schooling. His interest in you must flag in that first intimation of your flagging interest. Not only must you become an individual stick of dead timber in such event, but your influence must be to invite decay in others in the organization. No wise head of an organization will tolerate this infecting evil in an employé.

Marshall Field is conceded to have been one of the great organizers of his time. That one situation which always warmed him to caustic criticism of his managers was the occasional sudden loss of a department head and the confession from some one next in command that this commander was "unable to put a finger on a man for the place."

"Why can't you?" would be the warm questioning from the chief. "Why haven't you developed two or three men big enough for the place? Are we running a cemetery here?"

Marshall Field appreciated to the full that he was running a business school from which he expected economically to choose his business graduates. He felt that in the matter of this successful schooling the professors at the head of departments were equally at fault when graduates were few. He knew he could not afford to run his school if later he could not draw upon its graduates to the position of teachers in his establishments.

This is the lesson for the young man matriculating in the business world. If you have a poor faculty in your present school, get out of the school. If you are an indolent student, wake up to your work and your opportunity.

Secrets in the Family Dangerous.

By Helen Oldfield.

IN the London divorce court, recently, a man who had married a fashionable beauty was granted an absolute decree of divorce from his newly wedded wife, his plea being that of fraud. As the lawyers, in effect, put the case, the defendant, by means of artificial appliances, had enticed the plaintiff into matrimony, wherefore the marriage, having been made under misunderstanding, and because of deception, was declared null and void.

The wife's exquisite complexion was the work of her maid; her luxuriant hair her own only by right of purchase, and her shapely figure was due to an artistically padded corset, so that the deluded lover found himself the husband of

"A rag, and a bone, and a hank of hair."

Moreover, my lady had represented herself as years younger than her actual age, so that the "Fool," finding his wife altogether a different woman from the one whom he thought he was marrying, sought redress at law.

The case is not new. There is an English statute, centuries old, which also was law in some of the American colonies (and may still be, for all I know) making it a penal offense for any woman, by the use of paint and powder, false hair, and padding to entice any of his majesty's subjects into marriage, said subjects being in ignorance of the use of such artificial aids to beauty.

Neither is this species of fraud confined to the women. A few years ago a wealthy widow in Germany married a fascinating French nobleman whose chief personal attraction was his fine head of hair. Almost immediately after the marriage the bride applied for divorce on the ground that her husband wore a wig and had concealed the fact from her until after the ceremony. His Hyperion curls had been the especial object of her admiration, and when he suddenly appeared in her presence with his head as bare as a billiard ball she shrieked and fainted. Her plea for divorce, which the judge allowed, was that she had a constitutional antipathy to bald heads, and that thus it was impossible for her to live in comfort with a husband who possessed one.

A well known Italian diplomat used to tell the story of an American millionaire who came to him with the secret that a nobleman, introduced to him by the diplomat, wore a wig. He was young and handsome, and no one suspected his lack of hair, which he had lost during a severe illness. "He told me and my daughter last evening," said the American." "Indeed, he surprised us by taking off his wig and showing us his bald head. His conduct was absurd. Is he, ah, erratic at all?"

"You have told me a secret of importance," said the Italian. "Allow me to congratulate you."

"What? On knowing that the man is bald? I do not understand you, signor."

"No? What you have told me means that the count intends to propose to your daughter. Being the soul of honor, he does not wish her to accept him in ignorance of the fact that he wears a wig."

Which proved to be the correct explanation of the incident. The American heiress failed to manifest the expected eagerness to acquire a title; but there are others from whom it might have been well if before marriage their noble husbands had taken off their wigs, literal and figurative, in their presence. The not telling things, not only before marriage but before being engaged, doubtless is responsible for much matrimonial disagreement. One thing it leads to is the not telling at all, which always is a mistake, if, as is pretty sure to happen, one afterwards is found out. As Lincoln said, "there are some people whom you can fool all the time," but these are not many, and ugly secrets usually leak out. Then there is trouble and indignation, often not so much at the secret itself as at the deceit which hid it.

For example, there once were two sisters, pretty girls, both of whom were remarkable for their perfect teeth, which were greatly admired by the men whom they married. After marriage ill health caused both women to lose their teeth. The one woman wailed over hers as an affliction and, demanding sympathy from her husband, received it, and pity, in full measure. The other heroically concealed her misfortune from her husband, replacing each tooth in turn by an artificial one, and binding her dentist to secrecy.

At last, however, the knowledge came to her husband, when he not only resented the fact that his wife had false teeth, but, still more, the deception which she had practiced, a deception which he never forgave, although his wife's love for him had prompted it.

It is a dangerous thing to attempt to keep a secret from the wife or husband of your bosom, unless you are sure that you can keep it until eternity. It was a wise woman who said: "Always confess what you think will be found out. There is much in the art of putting things, and it is a great advantage to have the first telling."